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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/610,933	06/30/2003	Josh Hogan	10002759.4	2541

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HEWLETT-PACKARD COMPANY  
Intellectual Property Administration  
P.O. Box 272400  
Fort Collins, CO 80527-2400

EXAMINER
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CHU, KIM KWOK

ART UNIT	PAPER NUMBER
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2653

DATE MAILED: 03/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/610,933

Applicant(s)

HOGAN, JOSH

Examiner

Kim-Kwok CHU

Art Unit

2653

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on Amendment filed on 12/6/2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☒ Certified copies of the priority documents have been received in Application No. 09/542,404.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

***Response to Remarks***

1. Applicant's Remarks filed on December 6, 2004 have been fully considered.

(a) Applicant states that Narumi et al. do not teach or suggest a comparison of an error rate of a data set to a characterized read error rate as a function of write timing (page 5 of the Remarks, last second and third lines). Accordingly, Narumi teaches that the variation range of the start point for writing is based on an error rate. For example, to obtain an error rate below 0.0005, the variation range of the start point for writing was set at 16T (column 8, lines 47-58).

(b) Applicant states that Narumi does not teach or suggest that "of adjusting write timing based on a comparison" (page 5 of the Remarks, last line). Accordingly, Narumi teaches that "the relationship between the variation range of the start point for writing and error rate of read data is measured in each area" (Figs. 6A and 6B; column 8, lines 23-25).

(c) Applicant does not agree that Narumi's variation range of the start point for writing is compared the error rate of a data set to a characterized read error rate (page 6 of the Remarks, lines 6-8). To clarify the limitation of Applicant's claimed feature, the term "compared" has the following

meanings:

(1) to examine the character or qualities of especially in order to discover resemblances or differences <compare your responses with the answers>;

(2) to view in relation to <tall compared to me>; and

(3) to inflect or modify.

Accordingly, Narumi teaches that "to obtain an error rate below 0.0005, the variation range of the start point for writing was set at 16T" (column 8, lines 47-58) fulfils the requirement of the meaning of the word "compared" because the variation of range is based on examining a relation of the error rate of the written data.

(d) With respect to the Obviousness Double Patenting rejection, it is withdrawn because claim 7 in this Application does not claim the following features as claimed in claim 1 of the Parent Patent 6,631,108:

(1) at a particular write timing, the first and second read error rates are expected to be non-zero and equal, and for any write timing other than the particular write timing, the first and second read error rates are expected to be unequal; and

(2) comparing the first and second error rates; and adjusting the write timing based on the comparison of the first and second error rates.

**Claim Rejections - 35 USC § 102**

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

*A person shall be entitled to a patent unless --  
(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.*

3. Claims 1-4 are rejected under 35 U.S.C. § 102(e) as being anticipated by Narumi et al. (U.S. Patent 6,031,800).

Narumi teaches a method of adjusting write timing for an optical disc having all of the steps as recited in claims 1-4. For example, Narumi teaches the following:

(a) as in claim 1, writing a data set with a write timing (Fig. 1);

(b) as in claim 1, writing a data set at an area on an optical disc that has spatial features (Figs. 28 and 29; guide groove 2302 and pit train 2502 are spatial features);

(c) as in claim 1, the spatial features that distort an analog read data signal (Figs. 28 and 29; column 1, lines 42-45);

(d) as in claim 1, the distortion varying as a function of write timing (Fig. 1; column 1, lines 42-45);

(e) as in claim 1, the data set has a characterized read error rate as a function of write timing at the area that has the spatial features (Fig. 6A; column 8, line 25);

(f) as in claim 1, reading the data set from the optical disc 113 (Fig. 1);

(g) as in claim 1, determining a read error rate for the data set (column 8, line 25);

(h) as in claim 1, adjusting the write timing based on the read error rate of the data set (Fig. 4; Column 8, lines 23-25 and 49-52) and the characterized read error rate as a function of write timing (Figs. 6A and 6B);

(i) as in claim 2, observing whether the error rate increases when write timing is shifted in one direction (Figs. 6A and 6B);

(j) as in claim 3, observing whether the error rate decreases when the write timing is shifted in one direction (Figs. 6A and 6B); and

(k) as in claim 4, repeating the steps of writing a data set, reading the data set, and determining a read error rate for the data set, multiple times (Figs. 6A and 6B; column 10, table 1).

4. Claims 5-8 are rejected under 35 U.S.C. § 102(e) as being anticipated by Narumi et al. (U.S. Patent 6,031,800).

Narumi teaches a method of adjusting write timing for an optical disc having all of the steps as recited in claim 5. For example, Narumi teaches the following:

(a) as in claim 5, writing a data set with a write timing (Fig. 1);

(b) as in claim 5, writing a data set at an area on an optical disc that has spatial features (Figs. 28 and 29; guide groove 2302 and pit train 2502 are spatial features);

(c) as in claim 5, the spatial features is arranged in accordance with the data set (Figs. 28 and 29; data sets are recorded in pit trains; column 1, lines 42-45);

(d) as in claim 5, the distortion varying as a function of write time (Fig. 1; column 1, lines 42-45);

(e) as in claim 5, reading the data set from the optical disc (Fig. 1);

(f) as in claim 5, determining a first read error rate for the data set; adjusting the write timing (column 8, line 25; step 205, column 6, lines 16-20);

(g) as in claim 5, writing the data set at the area on the optical disc that has spatial features; reading the data set from the optical disc (column 8, line 25; step 205, column 6, lines 16-20);

(h) as in claim 5, determining a second read error rate for the data set (Fig. 2, step 205; column 6, lines 16-35);

(i) as in claim 5, selecting a lowest read error rate among the first and second read error rates (column 8, lines 47-58); and

(j) as in claim 5, choosing a write timing corresponding to the lowest read error rate (column 8, lines 47-58).

5. Claim 6 has limitations similar to those treated in the above rejection, and is met by the reference as discussed above.

6. Claim 7 has limitations similar to those treated in the above rejection, and is met by the reference as discussed above. Claim 7 however also recites the following limitations:

(a) as in claim 7, the spatial features that distort an analog read data signal (Figs. 28 and 29; column 1, lines 42-45); and

(b) writing a predetermined first data set and second data set (column 6, lines 19-25).



7. Claim 8 has limitations similar to those treated in the above rejection, and is met by the reference as discussed above. Claim 8 however also recites the following limitation:

(a) writing a data set, having a known error rate as a function of write timing (Figs. 6A and 6B; column 6, lines 18-23; Figs. 6A and 6B illustrated known error rates with respect to variation range.

#### **Conclusion**

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Narumi et al. (6,480,449) is pertinent because Narumi teaches a recording system using a recording pulse with corrected edge position based on read error rate.

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

10. Any response to this action should be mailed to:

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Or faxed to:

(703) 872-9306 (for formal communications intended for entry. Or:

(703) 746-6909, (for informal or draft communications, please label "PROPOSED" or "DRAFT")

Any inquiry of a general nature or relating to the status of this application should be directed USPTO Contact Center (703) 308-4357; Electronic Business Center (703) 305-3028.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kim CHU whose telephone number is (571) 272-7585 between 9:30 am to 6:00 pm, Monday to Friday.

Kim-Kwok CHU

*Kim Chu*  
Examiner AU2653  
March 18, 2005

(571) 272-7585

*3/18/05*

*Tan Dinh*  
TAN DINH  
PRIMARY EXAMINER

*3/18/05*